## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed **9 February 2011** have been fully considered. The arguments were previously addressed in the Action dated 26 April 2011. However, the recent interview on 26 May 2011 has revealed that a new search was warranted and hence a new non-final action is currently drafted to addressed the concerns and the previous final rejection withdrawn.

2. The new references Michael Cabbage, “Mars Rovers Will ‘Follow the Water’; In Two Launches – one set today – NASA is Sending Geologic Probes to the Red Planet"; Orlando Sentinel, June 8, 2003 (hereinafter “Cabbage”) and National Aeronautics and Space Administration, Mars Global Surveyor Arrival Press Kit September 1997 (“Press Kit 1997") are applied below in the 35 USC 103 rejection. Please also note the 112 paragraph 2 and Double Patenting rejections below.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 is unclear because it appears that Applicant might be attempting a "step for” limitation without the term

"means for" and also the functional part of the limitation which states "in light of other relevant data" does not clearly define the function. Claim 8 as written is confusing because it appears to be contradicting claim 1. Claim 8 states a "microscope-magnified" image while claim1 teaches the image of a spectrograph using a mass spectrometer. How is the Mass spectrometer able to use a microscope to magnify the image?

***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-4, 6-9 and 12-14 are rejected on the ground of nonstatutory double patenting over claims 1-6, 16-22, 32-35 and 46-66 of U. S. Patent No. 6/946,671 and claims 1-7 of U.S. Patent No. 7/126,104 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows:

The current application teaches airdropping a remote controlled unit, obtaining an image of a substance, use of mass spectrometer, transmitting the image, position determining, use of cell phone or satellite phone, determining the actual geographic locations and notifying the appropriate reporting authority and roll of filter paper receiving device.

The 6/946,671 patent teaches position determining device, location data transmitter, roll of filter paper receiving device, use of mass spectrometer.

The 7/126,104 patent teaches deployable remote data collection mechanism, location determining device, data transmitted to authorized persons.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.-

## Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claims 1, 2, 4, and 6-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Michael Cabbage, "Mars Rovers Will 'Follow the Water'; In Two Launches – one set today – NASA is Sending Geologic Probes to the Red Planet"; Orlando Sentinel, June 8, 2003 (hereinafter "**Cabbage**") in view of National Aeronautics and Space Administration, Mars Global Surveyor Arrival Press Kit September 1997 ("**Press Kit 1997**").

8. **With respect to claim 1, (Currently Amended)** Cabbage discloses:

a1. obtaining an image of a spectrograph of the substance with one or more remotely controllable sensing units comprising a spectrometer; a2. transmitting the image of the spectrograph of the substance from the one or more remotely controllable sensing units to a control unit configured to automatically identify the substance by comparison analysis; (Cabbage: page 2, paragraphs 6-10 – "the rovers are equipped with cameras to take photographs and spectrometers to analyze the surface's mineral composition")

b. generating a report with the control unit, the report comprising the image and identification information regarding the substance as determined by the control unit; (Cabbage: page 2, paragraphs 6-10 – "the rovers are equipped with cameras to take photographs and spectrometers to analyze the surface's mineral composition"; page 2, paragraph 9 – forensic tools read the minerals in the rocks)

c. uploading the report, via the control unit, to a secure remote server via a system chosen from the group consisting of a cell phone network and a satellite phone network; d. notifying, via the control unit, at least some members of a hierarchy authorities, wherein the evaluation authorities, including threat response authorities and evaluation authorities, include, including a plurality of experts having knowledge relevant to making a high-level threat assessment; and e. instructing at least some members of the hierarchy of authorities, via the control unit, to access the report on the remote server via a wide area network. (Cabbage: page 3, paragraph 5-6

– Rover transmits message to receiving stations on earth; these receiving stations forward the message to flight controllers at NASA Jet Propulsion Laboratory)

**EXAMINER'S NOTE:** National Aeronautics and Space Administration, "Mars Exploration Rover Launches" press kit June 2003 (hereinafter **"Press Kit 2003**") teaches the structural attributes inherent to the Mars Exploration Rover. Page 33, 4th full paragraph - discusses the Rovers ability to transmit imaging; Pages 34-36 section on Communications note that the Deep Space Network is used to communicate with the Mars Rover using large dish antennas. This network is used for data transmission and direct-to-earth communications. This system has been in place for 40 years. Page 42 – the Rover has a pivot point rocker-bogie system.

Cabbage teaches the Mars Rovers ability to use a spectrometer in exploration (page 3, paragraph 6) Cabbage does not teach the use of a mass spectrometer, However, National Aeronautics and Space Administration, Mars Global Surveyor Arrival Press Kit September 1997 ("Press Kit 1997") teaches the use of Mass Spectrometry for meteorite sample analysis and exploration in Antarctica. (Press Kit 1997 page 15)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Cabbage with the Press Kit 1997 reference because it would be predictable to NASA that a mass spectrometer could be used for remote substance analysis and detection.

9. **With respect to claim 2**, **(Previously Presented)** Cabbage teaches evaluating a threat posed by a substance, further including the steps of providing the remote server with evaluation tools for automatically evaluating, the report in light of other relevant data (Cabbage: page 3, paragraph 5-6 – Rover transmits message to receiving stations on earth; these receiving stations forward the message to flight controllers at NASA Jet Propulsion Laboratory)

10. **With respect to claim 4**, **(Previously Presented)** Cabbage teaches evaluating a threat posed by a substance, further including the steps of providing the remote server with evaluation tools for automatically evaluating the report in light of other relevant data (Cabbage: page 3, paragraph 5-6 – Rover transmits message to receiving stations on earth; these receiving stations forward the message to flight controllers at NASA Jet Propulsion Laboratory).

11. **With respect to claim 6**, **(Previously Presented)** Cabbage teaches the response authorities are chosen from the group consisting of local first responders, state agencies, state departments, regional agencies, regional departments, national departments, and national agencies (Cabbage: page 3, paragraph 5-6 – Rover transmits message to receiving stations on earth; these receiving stations forward the message to flight controllers at NASA Jet Propulsion Laboratory)

12. **With respect to claim 7**, **(Previously Presented)** Cabbage teaches the evaluation authorities include experts on subjects chosen from the group consisting of medical issues relating to exposure to chemical substances, medical issues relating to exposure to biological substances, medical issues

relating to exposure to radioactive substances, law, law enforcement, policy, doctrinal issues, historical cases, modeling, and simulation (Cabbage: page 3, paragraph 5-6 – Rover transmits message to receiving stations on earth; these receiving stations forward the message to flight controllers at NASA Jet Propulsion Laboratory).

13. **With respect to claim 8**: **(Previously Presented)** Cabbage teaches:

- the image of the substance is a microscope-magnified image (Cabbage: page 2, paragraph 8 – "the rovers are equipped with cameras to take photographs and spectrometers to analyze the surface's mineral composition"; “a combinations camera-microscope that will photograph close-ups of rocks and soil”)

12. **Claims 3 and 13 are** also rejected under 35 U.S.C. 103(a) as being unpatentable over **Cabbage** in view of **Barnes (US 6/422,508 B1)**.

13. **With respect to claims 3 and 13**, (**Currently Presented)** Cabbage teaches:

A1) airdropping one or more remotely controllable sensing units into an area containing a potentially hazardous substance, wherein the remotely controllable sensing units are positioned within an inflatable balloon-like structure which is inflated prior to airdropping the remotely controllable sensing units, wherein the inflated balloon-like structure is spherical, with an off-set center of gravity, such that the remotely controllable sensing units roll upon hitting ground to properly position various inlet and outlet parts associated with a sample collection mechanism of the remotely

controllable sensing units for sample collection; (Cabbage: page 3, paragraphs 1-6 – “protective shell containing the rover and its landing platform will separate from the rest of the spacecraft to begin…descent”, airbags are deployed, “the landing platform is built to wind up in an upright position no matter how the pyramid-shaped airbags come to rest.”; page 2, paragraph 8 – "the rovers are equipped with cameras to take photographs and spectrometers to analyze the surface's mineral composition"; “a combinations camera-microscope that will photograph close-ups of rocks and soil”; detailed analysis provided);

A2. obtaining an image of the substance with one or more remotely controllable sensing units; a3. transmitting the image of the substance from the one or more remotely controllable sensing units to a control unit configured to automatically detect and identify the substance and generate a corresponding report; (Cabbage: page 2, paragraph 8 – "the rovers are equipped with cameras to take photographs and spectrometers to analyze the surface's mineral composition"; “a combinations camera-microscope that will photograph close-ups of rocks and soil”)

g. uploading the report, via the control unit, to a remote server (Cabbage: page 2, paragraphs 6-10 – "the rovers are equipped with cameras to take photographs and spectrometers to analyze the surface's mineral composition"; page 2, paragraph 9 – forensic tools read the minerals in the rocks);

i. notifying, via the control unit, the appropriate local reporting authority of the report in accord with the appropriate local reporting policy; j. determining, via the control unit, a hierarchy of threat evaluators, including a plurality of experts having knowledge relevant to making a high-level threat assessment; k. instructing at least some members of the hierarchy of threat evaluators to access the report on the remote server via a wide area network. (Cabbage: page 3, paragraph 5-6 – Rover transmits message to receiving stations on earth; these receiving stations forward the message to flight controllers at NASA Jet Propulsion Laboratory)

**EXAMINER'S NOTE:** National Aeronautics and Space Administration, "Mars Exploration Rover Launches" press kit June 2003 (hereinafter **"Press Kit 2003**") teaches the structural attributes inherent to the Mars Exploration Rover. Page 33, 4th full paragraph - discusses the Rovers ability to transmit imaging; Pages 34-36 section on Communications note that the Deep Space Network is used to communicate with the Mars Rover using large dish antennas. This network is used for data transmission and direct-to-earth communications. This system has been in place for 40 years. Page 42 – the Rover has a pivot point rocker-bogie system.

Cabbage discloses all the above limitations including the transmittal to the NASA laboratory of safe arrival (Cabbage: page 3, paragraph 6), Cabbage does not teach, however **Barnes** teaches,

h. determining an actual geographic location of a remote sensing unit detecting the substance using a GPS device located on the remote

sensing unit, communicating the actual geographic location to the control unit, and identifying an appropriate local reporting authority and an appropriate local reporting policy based upon the actual geographic location of the remote sensing unit detecting the substance; (Barnes: col. 4, lines 35-45; col. 7, line 5- col. 8, line 35; col. 9; col. 11, lines1-42 – A high capacity cable is attached to the vehicle "the cable can be customized or optimized for various types of communication standards as understood by those skilled in the art; system used for counterterrorism, counter proliferation of weapons etc.; global positioning system used (GPS) data used to computed spectral sensor location; programmed inputs via processing means which uses a GUI interface)I

it would have been obvious for one of ordinary skill in the art at the time of the invention to modify the teachings of Cabbage and Barnes to include a GPS since there is value in knowing the location of sample collection and also because the Cabbage system already had to ability to alerting NASA that it had arrived on Mars.

12. **Claims 12 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cabbage** in view of **Barnes** and further in view of **Press Kit 1997**.

14. **With respect to claims 12 and 14 (New):** Cabbage teaches the Mars Rovers ability to use a spectrometer in exploration (page 3, paragraph 6) Cabbage does not teach the use of a mass spectrometer. However, Press Kit

1997 teaches the image of the substance is an image of a spectrograph of the substance, including data points obtained by a mass spectrometer, a gas chromatograph, or an ion mobility spectrometer of the remotely controllable sensing units. (Press Kit 1997: page 15 - the use of Mass Spectrometry for meteorite sample analysis and exploration in Antarctica.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Cabbage with the Press Kit 1997 reference because it would be predictable to NASA that a mass spectrometer could be used for remote substance analysis and detection.

15. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Cabbage** in view of **Press Kit 1997** and further in view of **Ishizaka et al. (U.S. 5,077,010)** (Hereinafter referred to as **Ishizaka**).

17. **With respect to claim 9**, **(Previously Presented)** Cabbage/Press Kit 1997 teach sample analysis and reporting above. Cabbage/Press Kit 1997 do not teach, however Ishizaka teaches a long- test-film cassette for biochemical analysis and system for loading the same which teaches a roll of filter paper for receiving the substance (Ishizaka, Fig 1, item 7); a roll of film providing an impermeable barrier for isolating the substance (Ishizaka, Fig 1, item 3); and an archive spool for collecting the roll of filter paper and the roll of film (Ishizaka, Fig 1, item 2).

It would have been obvious and predictable to one of ordinary skill in the art at the time of the invention to combine the teachings of Cabbage, Press Kit

and Ishizaka because the ability to collect samples remotely and analyzed using the film speeds up the research process and fulfills the goal of protecting humans from the unknown.

**OTHER REFERENCES SITED:**

Chao et al (US 5/216,484) column 1, lines 10-20 - spectrometer has a variety of uses

## CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heidi Riviere whose telephone number is 571-270-1831. The examiner can normally be reached on Monday-Friday 9:00am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janice Mooneyham can be reached on 571-272-6805. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Heidi Riviere/

Examiner, Art Unit 3689